FIG. 1

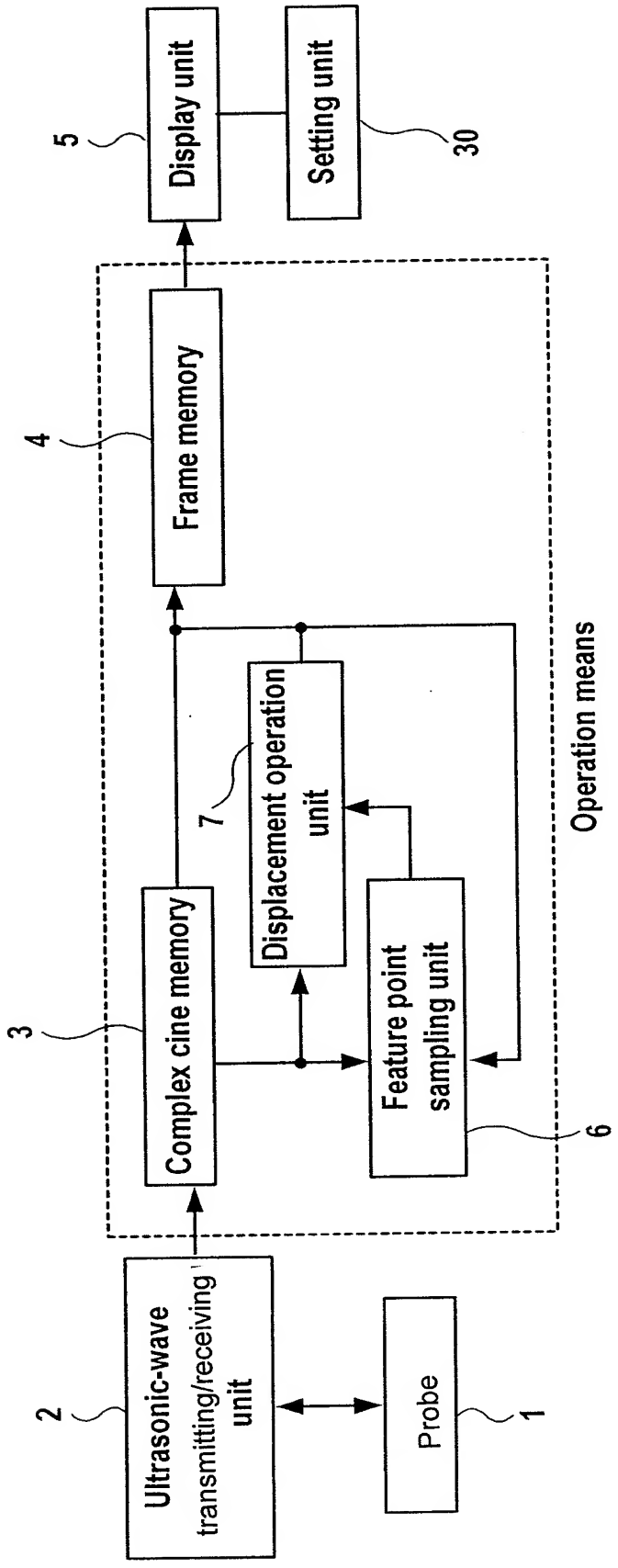

Display unit
5
Setting unit
30
Frame memory
4
Displacement operation unit
7
Operation means
Complex cine memory
3
Feature point sampling unit
6
Ultrasonic-wave transmitting/receiving unit
2
Probe
1

FIG. 3

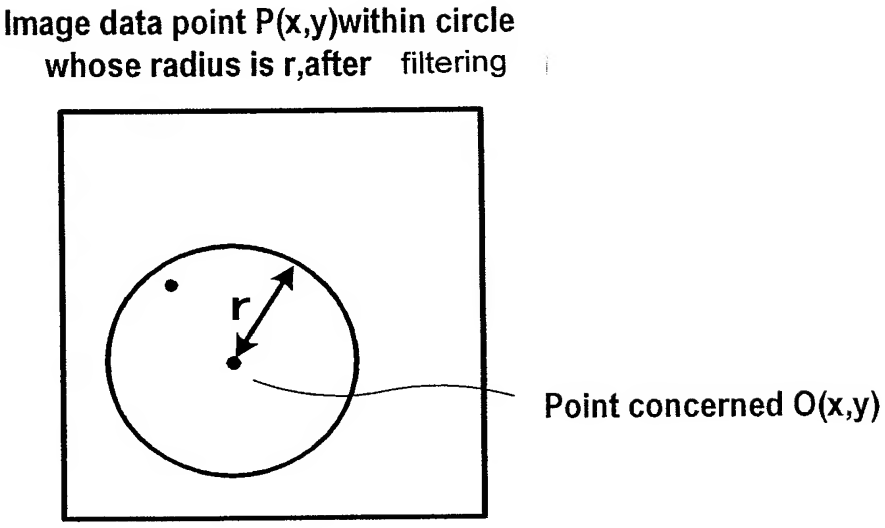


Image data point P(x,y)within circle
whose radius is r,after filtering
r
Point concerned O(x,y)

FIG. 4

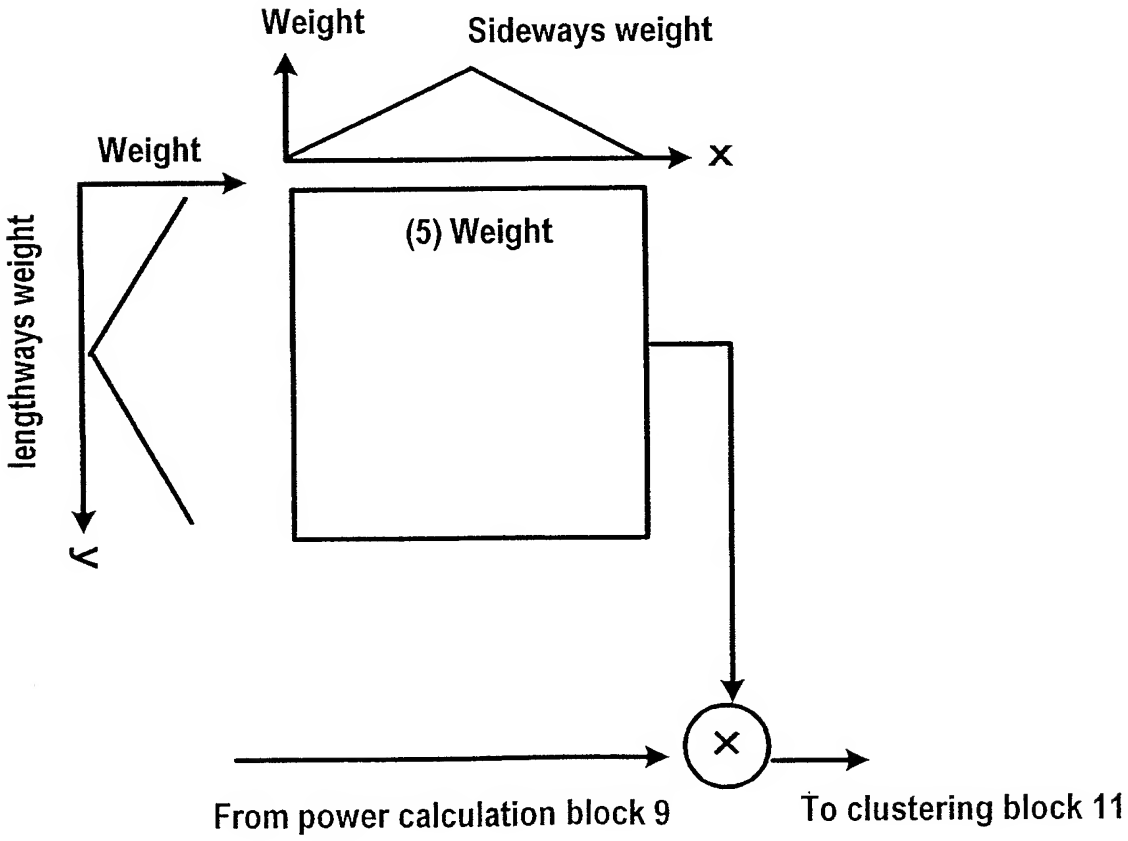

Weight
Sideways weight
x
Weight
lengthways weight
y
(5) Weight
From power calculation block 9
To clustering block 11

FIG. 5

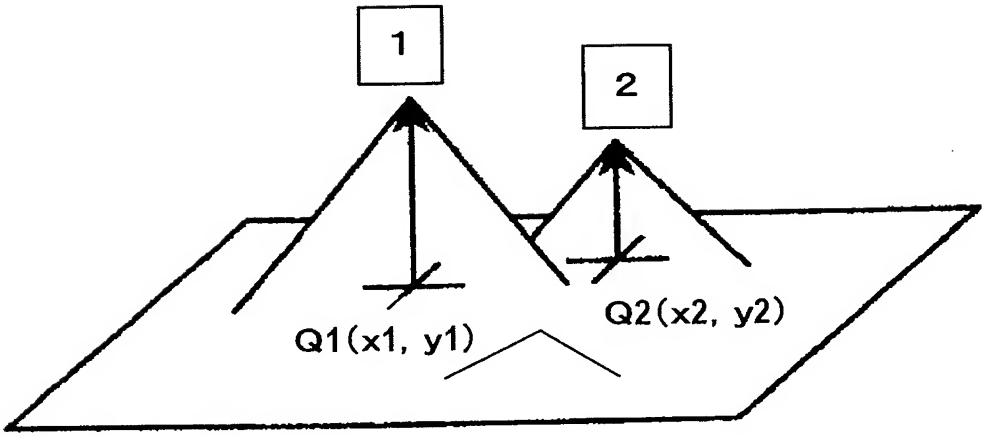

1
2
Q1(x1, y1)
Q2(x2, y2)

FIG. 6

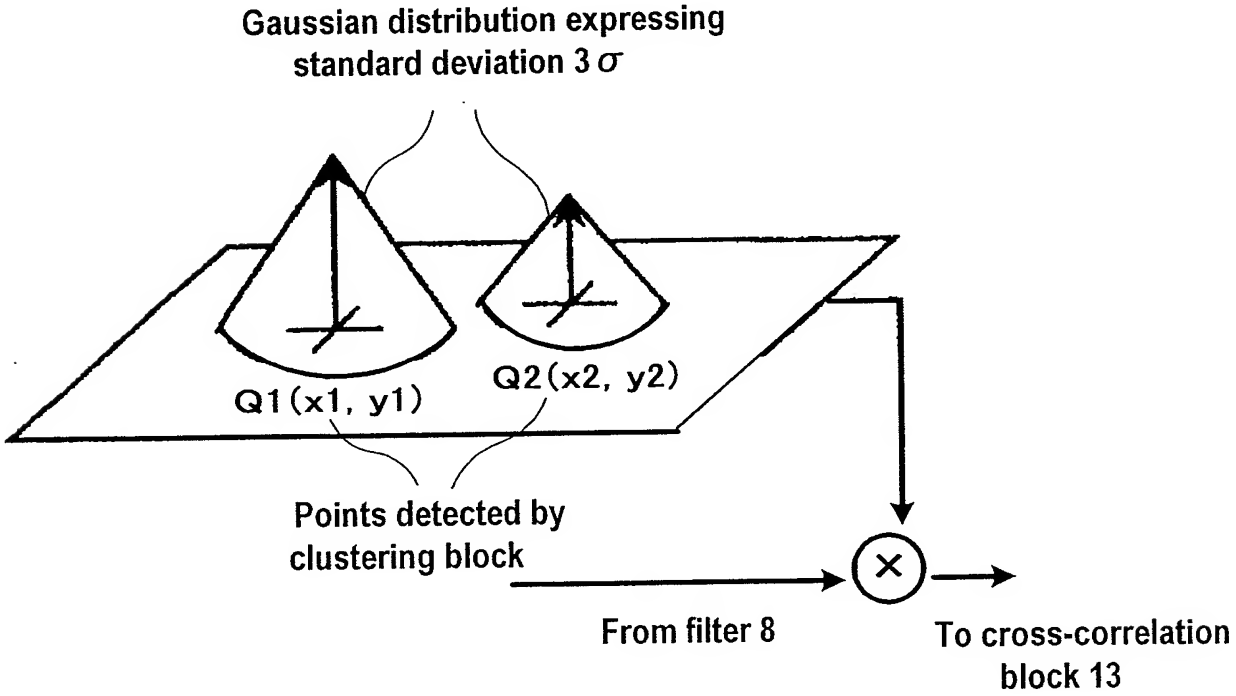
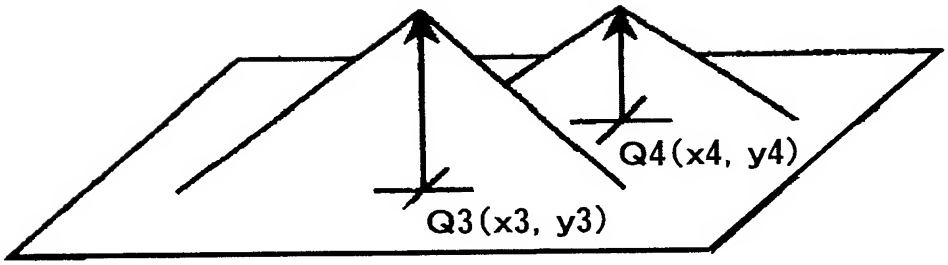

Gaussian distribution expressing
standard deviation 3σ
Q1(x1, y1)
Q2(x2, y2)
Points detected by
clustering block
From filter 8
To cross-correlation
block 13

FIG. 7



Distribution of powers subjected to cross-correlation

FIG. 8

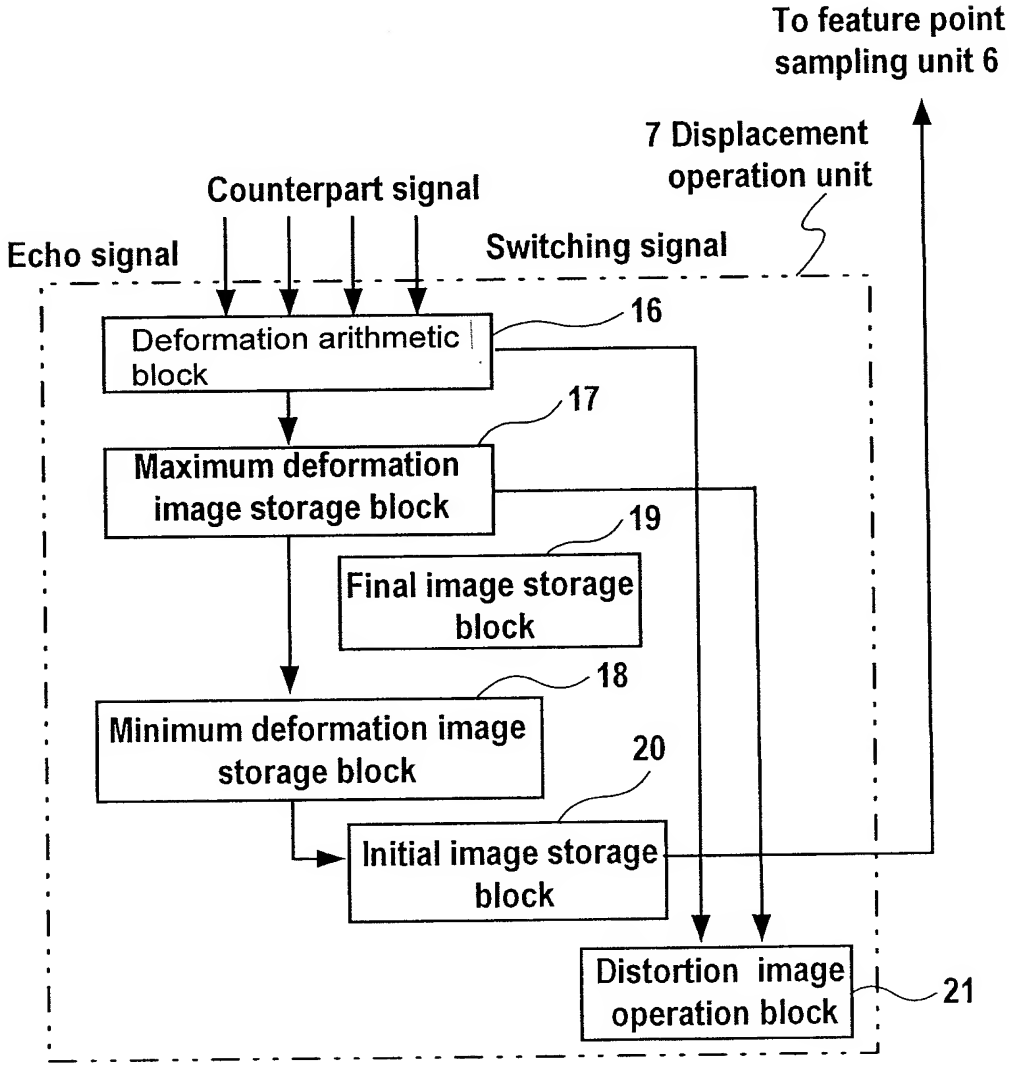


FIG. 9

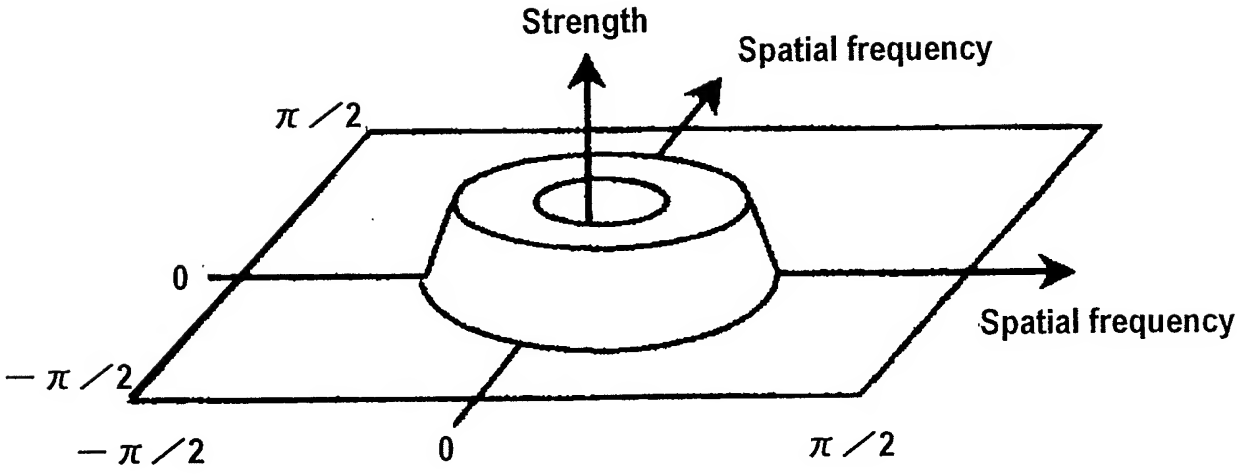

Strength
Spatial frequency
π／2
0
Spatial frequency
－π／2
－π／2
0
π／2

FIG. 10

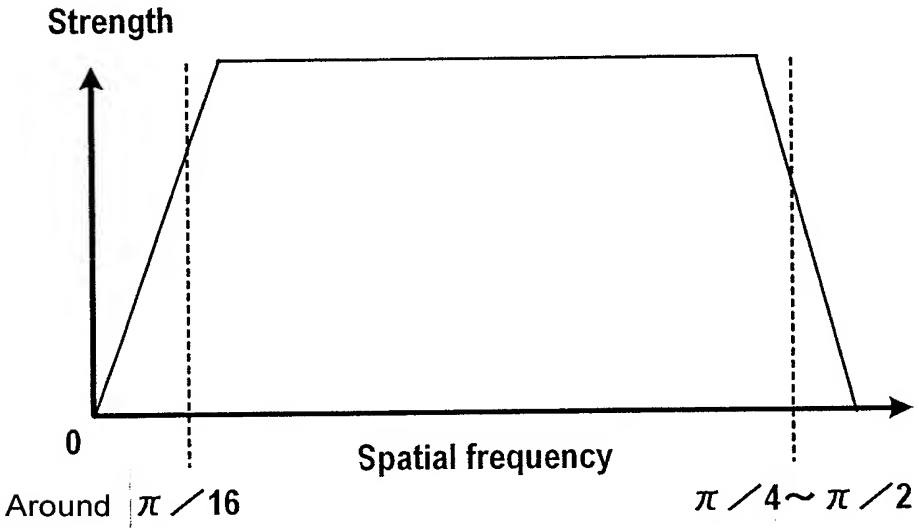

Strength
0
Spatial frequency
Around π／16
π／4～π／2

FIG. 11A

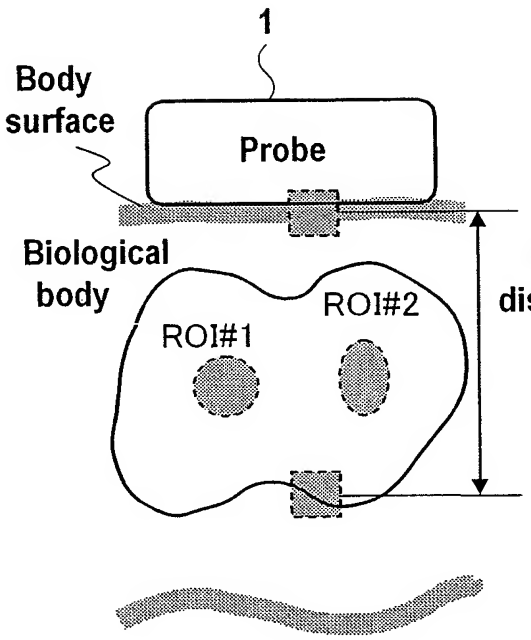


FIG. 11B

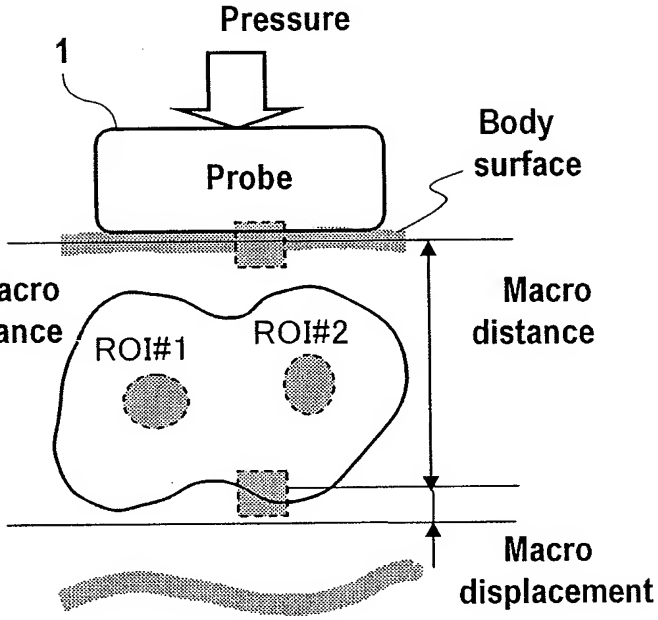


FIG. 12A

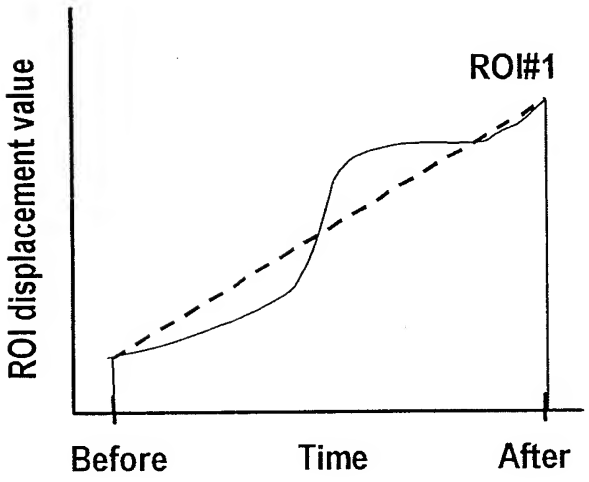


FIG. 12B

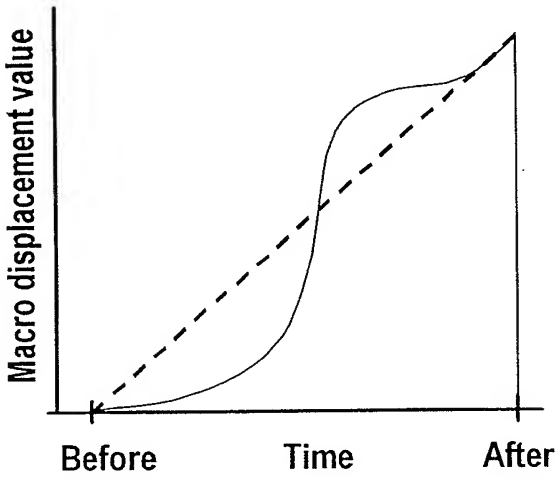
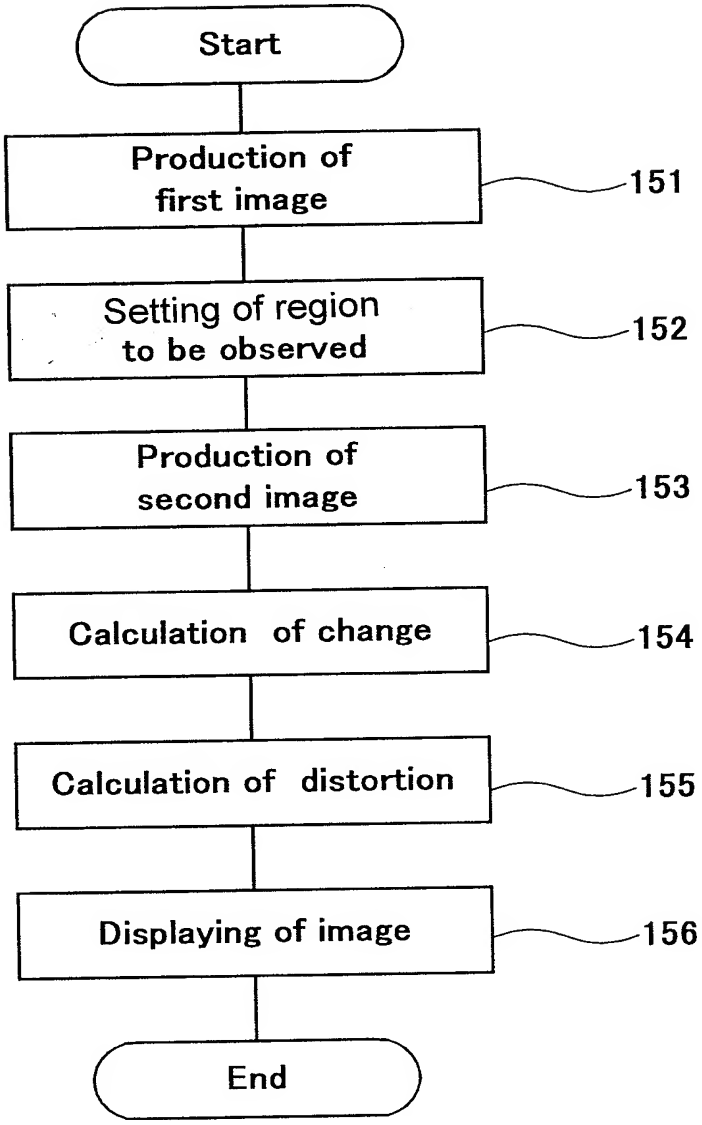


FIG. 15


Start
Production of first image
151
Setting of region to be observed
152
Production of second image
153
Calculation of change
154
Calculation of distortion
155
Displaying of image
156
End